

## Patent claims

1. Method for the transmission of data,
  - in which a transmission-end input data stream (IN) is divided into individual words,
  - 5    - in which, on the basis of transmission-end modulation methods and coding methods, a-priori reliability values (ZUV1,...,ZUVn) are determined for the positions (POS) of a transmittal data block (SDS),
  - 10   - in which the words of the input data stream (IN) are allocated and transmitted to the corresponding positions (POS) of the transmittal data block (SDS) depending on the a-priori reliability values (ZUV1,...,ZUVn),
  - 15   - in which, at the receiving end, for each word of the transmittal data block (SDS), an a-posteriori reliability value (ZV11,...,ZV1n) is formed, and
  - 20   - in which those words having a minimum value (ZUVmin) falling below the a-posteriori reliability value (ZV11,...,ZV1n) are re-requested and transmitted at the transmission end.
2. Method according to Claim 1,
  - 20   - in which a word (DWi) of the input data stream (IN) which is allocated to a first position (POS1) of the transmittal data block (SDS) with a maximum a-priori reliability value (ZUV1), is transmitted first, and
  - 25   - in which a word (DWn) of the input data stream (IN), which is allocated to an nth position (POSn) of the transmittal data block (SDS) with a minimum a-priori reliability value (ZUVn), is transmitted last.

3. Method according to Claim 1 or 2,
- in which at the receiving end in the transmittal data block (SDS), an *i*th word (*W<sub>i</sub>*) is determined at an *i*th position (*POS<sub>i</sub>*) whose a-posteriori reliability value (*ZV<sub>1i</sub>*) falls below the minimum value (*ZUV<sub>min</sub>*) for the first time; and
  - in which the *i*th position (*POS<sub>i</sub>*) of the *i*th word is transmitted to the transmission end.
4. Method according to Claim 3,
- in which at the transmission end a new transmittal data block (SDSN) is formed for a re-transmission (*ÜB2*) to which the *i*th word (*W<sub>i</sub>*) of the previous transmission (*ÜB1*) is allocated to the first position (*POS1*),
  - in which in the case of the new transmittal data block (SDSN), the positions (*POS2*, ..., *POS<sub>n</sub>*) following the first position (*POS1*) is occupied accordingly with those words (*W<sub>i+1</sub>*, ..., *W<sub>n</sub>*) of the transmission (*ÜB1*), that in the previous transmission (*ÜB1*) occupy positions (*POS<sub>i+1</sub>*, ..., *POS<sub>n</sub>*), that were greater than the *i*th position (*POS<sub>i</sub>*).
5. Method according to Claim 3 or 4, in which the *i*th position is transmitted by using a return channel from the receiving end to the transmission end.
6. Method according to one of the previous claims in which the words (*W<sub>i</sub>*, ..., *W<sub>n</sub>*) of a first transmission (*ÜB1*) considered to be errored are stored at the receiving end and are combined with the re-transmitted words (*W<sub>i</sub>*, ..., *W<sub>n</sub>*) of a second transmission (*ÜB2*) by using a maximum ratio combining method or a code combining method.

7. Method according to one of the previous claims in which the receiving-end a-posteriori reliability values ( $ZV_{11}, \dots, ZV_{1n}$ ) are determined by using a soft output decoding method.
8. Method according to Claim 7 in which the receiving-end a-posteriori reliability values ( $ZV_{11}, \dots, ZV_{1n}$ ) are determined by using a trellis decoding method.
9. Method according to one of the previous claims in which the transmittal data block (SDS) is transmitted in a modulated way by using a PSK or a 16QAM or a higher-level modulation method.
10. Method according to one of the previous claims in which a checksum or a CRC data block is added as a prefix to the transmittal data block (SDS) for error detection.